Academic Program Description Form

University Name: Tikrit University
Faculty/Institute: College of Agriculture
Scientific Department: Agricultural Machinery and Equipment Department
Academic or Professional Program Name: Bachelor of Agricultural Sciences/ Agricultural Machinery and Equipment
Final Certificate Name: Bachelor of Agricultural Machinery and Equipment
Academic System: Bologna
Description Preparation Date: 14/9/2025
File Completion Date: 14/9/2025

Signature:
Head of Department Name:
Professor Dr. Momtaz Isaak Hammood
Date: 14/9/2025

Signature:
Scientific Associate Name:
Professor Dr. Mohammed Saleh Mohammed
Date: 14-9-2025

The file is checked by:

Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:
Professor Dr. Maysaloon Wail Ibraheem
Date: 14.9.2025
Signature:

Approval of the Dean

Dr. Sami Khader Saeed

14/9/2025

Teaching staff in the Department of Agricultural Machinery and Equipment

No	Names teaching staff	Academic title	Degree	General Specialization	Subspecialization	Email	Notes
1	Momtaz Isaak Hommood	Professor	PhD	Agricultural Mechanization	Agricultural Machinery and Equipment	momtaz.isaak@tu.edu.iq	Head of Department
2	Thaer Turki Abdul Karim	Professor	PhD	Agricultural Machinery and Equipment	Agricultural Machinery and Power	thaerturky@tu.edu.iq	Department Rapporteur
3	Ahmed Abdul Ali Abtan	Lecturer	PhD	Agricultural Mechanization	Agricultural Machinery and Equipment	ahmedabtan@tu.edu.iq	
4	Ahmed Imad Saleh	Lecturer	PhD	Food Science	Food Science	a.emad004@tu.edu.iq	
5	Ahmed Dawood Salman	Lecturer	PhD	Soil Science	Soil Physics	a.dawood006@tu.edu.iq	
6	Abdullah Azawi Issa	Assist. Professor	Master's	Agricultural Mechanization	Agricultural Machinery and Equipment	abdullah.azawi@tu.edu.iq	PhD Student, University of Baghdad
7	Abdul Qader Ghaleb Nasser	Lecturer	Master's	Agricultural Mechanization	Agricultural Machinery and Equipment	abdalkader.ghalib@tu.edu.iq	PhD Student, UPM, Malaysia
8	Sara Namas Ahmed	Assist. Lecturer	Master's	Soil Science	Soil Physics	sara.namis@tu.edu.iq	PhD Student, Tikrit University

Tikrit University
جامعة تكريت

First Cycle – Bachelor's degree (B.Sc.) – Agricultural Machinery and Ewuipment

بكالوريوس علوم زراعية – مكائن والآلات زراعية

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1. Mission & Vision Statement

Vision Statement **الرؤيا**

Advancement and excellence in agricultural engineering sciences and biosystems engineering, along with their applications, to prepare specialized and qualified professionals capable of keeping pace with labor market needs, so that the department becomes among the leading departments of colleges of agriculture locally and regionally..

Mission Statement **الأهداف**

Preparing distinguished cadres capable of meeting labor market needs, conducting scientific research to keep pace with global developments, transferring knowledge, and localizing technology in pursuit of outstanding service for environmental development, community service, and the advancement of agricultural engineering fields, agricultural mechanization, and the use of farm machinery—through graduates holding university degrees at the bachelor's, master's, and doctoral levels..

2. Program Specification

Programme code:	BSc-BIO	**ECTS**	240
Duration:	4 levels, 8 Semesters	**Method of Attendance:**	Full Time

In the first level, the student is introduced to the basic sciences, most of which are considered compulsory requirements of the university and the college. These include the Arabic language to

enhance students' linguistic skills and their ability to conduct formal correspondence, in addition to general physics, the English language, human rights and democracy, computer studies, and preparatory courses that students must complete to progress to the next level. These include mathematics, which serves as a foundation for statistics, and the engineering workshop course, which the student must understand in order to study the curricula in the subsequent stages.

At the second level, the courses are preparatory for progression to the third and fourth levels, where the student acquires extensive knowledge and skills in subjects such as statics and dynamics, which are important foundational courses for other subjects such as tractor performance mechanics, fluid mechanics, seeding and planting equipment, irrigation and drainage equipment, agricultural mechanization for animal production, and the English language. In addition, thermodynamics serves as a prerequisite for internal combustion engines, which constitute a fundamental basis for understanding the department's courses. This subject is considered a prerequisite for most courses in the third and fourth levels, including soil preparation equipment, orchard equipment, as well as harvesting and post-harvest equipment, in addition to seminars and graduation projects.

3. Program Objectives اهداف البرنامج

1. Qualifying students both theoretically and practically through specialized curricula and courses.
2. The department grants a Bachelor's degree in Agricultural Sciences with a specialization in agricultural machinery and equipment, aiming to supply the labor market with specialists in agricultural machinery and power engineering, irrigation and drainage engineering, water management, food processing engineering, agricultural structures and environmental control engineering, and energy engineering.
3. The department aims to qualify and train students, both theoretically and practically, in the proper scientific and technical operation of agricultural machinery and equipment in plant and animal production, as well as food processing technologies; maintaining and repairing all agricultural machinery; managing and utilizing agricultural equipment optimally; and training in service operations such as welding, filing, and turning, while promoting respect for manual work in the field, workshop, and laboratory.
4. Contributing, in cooperation with other scientific departments in the college, its administration, and the university, to preparing agricultural professionals, researchers, and planners across various fields and specializations by providing them with knowledge development related to agricultural engineering technology (machinery and equipment) connected to their areas of expertise.
5. Developing the study plan of the Agricultural Machinery and Equipment Department to keep pace with modern technological advancements, applying quality assurance and accreditation standards to enhance student performance in comprehension, learning, interpersonal interaction, and in planning and solving community development problems.
6. Promoting technologies for rationalizing water consumption and expanding agricultural land areas that previously lacked sufficient water allocations through the adoption of mechanized irrigation techniques.

7. Encouraging students to engage in research and innovation by introducing courses that develop intellectual skills, fostering economic and societal planning, constructive dialogue, and decision-making, as well as supporting educational development programs and enhancing the skills of educators and trainers through continuous education and graduate follow-up units.
8. Conducting numerous studies and research projects to address and solve agricultural problems using technological methods.
9. Carrying out scientific research in environmental engineering and protection, and in the use of alternative biosystems and renewable energy sources.
10. Organizing specialized training courses aimed at developing the technical knowledge of professionals in the field of agricultural mechanization.
11. Promoting intellectual development by creating a creative environment through organizing field days for various agricultural activities in which agricultural mechanization plays an active role in improving and developing different agricultural practices.

4. Student Learning Outcomes مخرجات التعلم للطالب

Knowledge and skills expected to be acquired by graduates of the Agricultural Machinery and Equipment Department:

1. Designing, operating, maintaining, and managing agricultural machinery, tractors, and equipment used in agricultural production processes.
2. Automated control of farm operation systems.
3. Planning, designing, and maintaining both traditional and modern irrigation systems.
4. Planning, designing, and managing agricultural land drainage networks.
5. Understanding the physical and thermal properties of food materials and the applications of heat and mass transfer.
6. Designing structures for animal and plant production, as well as grain storage facilities.
7. Designing and selecting environmental control systems, including ventilation, cooling, and heating.

5. Academic Staff الهيئة التدريسية

No	Names teaching staff	Academic title	Degree	General Specialization	Subspecialization	Email
1	Momtaz Isaak Hommood	Professor	PhD	Agricultural Mechanization	Agricultural Machinery and Equipment	momtaz.isaak@tu.edu.iq
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6. Credits, Grading and GPA الاعتمادات والدرجات والمعدل التراكمي

The College of Agriculture at Tikrit University follows the Bologna Process through the European Credit Transfer and Accumulation System (ECTS). The total number of ECTS credits required for the degree program is 240 credits, with 30 ECTS credits allocated per semester. Each ECTS credit corresponds to 25 hours of student workload, including both structured and unstructured learning activities, for the first and second stages of the 2025–2026 academic year.

In addition, the general semester system is applied for stages beyond the first year.

Grading

Before evaluation, results are divided into two subgroups: pass and fail. Therefore, the results of successful students are independent and separate from those of
failed the course. The grading system is defined as follows: students who

GRADING SCHEME مخطط الدرجات				
Group	**Grade**	التقدير	**Marks (%)**	**Definition**
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب - قيد المعالجة	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note:				
Number Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

Calculation of the Cumulative Grade Point Average (CGPA)

1. The CGPA is calculated by the summation of each module score multiplied by its ECTS, all are divided by the program total ECTS.

   CGPA of a 4-year B.Sc. degree:

   CGPA = [(1st ^{m}odule score x ECTS) + (2nd ^{m}odule score x ECTS) + ……] / 240

7. Curriculum/Modules المواد الدراسية

Semester 1 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
UOT002	English language	33	17	2.00	B	
UOT004	Democracy and Human rights	32	18	2.00	B	
MATH105	Mathematics1	48	77	5.00	B	
AGRSS01	Soil Science	78	47	5.00	S	
AGRFC01	Field crop production technology	78	47	5.00	S	
AGRAM01	Engineering Drawing	48	77	5.00	C	
AGRAM04	Physics	78	72	6.00	C	

Semester 2 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
UOT001	Arabic language	32	18	2.00	B	
UOT003	Computer Application1	48	27	3.00	B	
AGRAM02	Engineering Workshop	48	77	5.00	C	
AGRAM03	Agricultural Tractors	78	72	6.00	C	
AGRAM05	Surveying and Land leveling	78	72	6.00	C	
AGREG01	Transfer of agricultural technologies	32	43	3.00	S	
AGRHL01	Horticulture & Landscaping Engineering	78	47	5.00	S	

Semester 3 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
UOT011	Arabic language 2	32	18	2	B	
UOT014	Crimes of the Bath Regime in Iraq	32	18	2	B	
AGRPP01	Plant protection principles	63	87	6	S	
AGRFT01	Fundamentals of Food Technology	63	87	6	S	
AGRMT02	Metallurgy	63	112	7	C	
AGREM02	Engineering Mechanics	63	112	7	C	

Semester 4 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
UOT012	English language 2	32	18	2	B	
UOT013	Computer Application 2	48	27	3	B	
AGREDE1	Experimental Design and Analysis	63	87	6	S	
AGRACE1	Agricuture Career Ethics	62	63	5	S	
AGRMD1	Mechanical Drawing	33	142	7	C	
AGRSM1	Soil Mechanics	63	112	7	C	

Semester 5 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
AGRSPE01	Soil preparation equipment	63	62	5	C	
AGRSFE02	Seeding and fertilization equipment	63	62	5	C	
AGRTHR03	Thermodynamics	63	62	5	C	
AGRFM04	Fluid mechanics	63	62	5	C	
AGRIDE05	Irrigation and drainage engineering	63	62	5	S	
AGRAPM06	Animal production mechanization	63	62	5	C	

Semester 6 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
AGRTPM01	Tractor Performance Mechanics	63	87	6	C	
AGRICE02	Internal Combustion Engines	63	87	6	C	
AGRAMD03	Agricultural Machinery Design Theories	63	87	6	C	
AGRIDE06	Irrigation and Drainage Equipment	63	87	6	C	
AGROE07	Orchard Equipment	63	62	5	C	
AGRSEM08	Seminars	17	8	1	C	

Semester 7 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
AGRHME01	Heavy Machinery and Equipment	63	87	6	C	
AGRAMA02	Agricultural Mechanization Automation	63	62	5	C	
AGRTMR03	Agricultural Tractor Maintenance and Repair	63	87	6	C	
AGRREN04	Renewable Energy	63	87	6	C	
AGRFPE05	Food Processing Equipment	63	62	5	C	
AGRPRJ06	Graduation Project	47	3	2	C	

Semester 8 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
AGRPCA01	Precision Agriculture	63	87	6	C	
AGRHRE02	Harvesting Equipment	63	87	6	C	
AGRPHE03	Post-Harvest Equipment	63	87	6	C	
AGRAME04	Agricultural Machinery Economics	63	62	5	C	
AGRPPE05	Plant Protection Equipment	63	62	5	C	
AGRPRJ06	Graduation Project	47	3	2	C	

1. Contact Information معلومات الاتصال

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